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*Admitted only in Maryland
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March 28, 2003

Commissioner for Patents
Washington, D.C. 20231

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Group Art Unit 1652

Re: U.S. Utility Patent Application
Appl. No. 10/005,647; Filed: December 7, 2001
For: **Glucuronyl C5-Epimerase, DNA Encoding
the Same and Uses Thereof**
Inventors: Jalkanen *et al.*
Our Ref: 1708.0280002/MAC/MBT

Sir:

Transmitted herewith for appropriate action are the following documents:

1. Second Supplemental Information Disclosure Statement;
2. Form PTO-1449 (3 sheets citing 8 documents);
3. 8 documents attached cited in Form PTO-1449; and
4. One (1) return postcard.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Michele A. Cimbala

Michele A. Cimbala
Attorney for Applicants
Registration No. 33,851

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Enclosures

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Jalkanen *et al.*

Appl. No. 10/005,647

Filed: December 7, 2001

For: **Glucuronyl C5-Epimerase, DNA
Encoding the Same and Uses
Thereof**

Confirmation No. 9088

Art Unit: 1652

Examiner: C. Patterson

Atty. Docket: 1708.0280002/MAC/MBT

Second Supplemental Information Disclosure Statement

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Washington, D.C. 20231

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Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. The numbering on this Second Supplemental Information Disclosure Statement is a continuation of the numbering in Applicants' First Supplemental Information Disclosure Statement filed on August 19, 2002 in connection with the above-captioned application. A copy of each document is also provided.

WO 01/38507, an abstract for which is cited herein as Document AR4, was cited as Document AL1 in the First Supplemental Information Disclosure Statement filed August 19, 2002.

Full length articles cited in Documents AT2, AR3, AS3, AT3, and AR4 are submitted herewith or have previously been submitted to the U.S. Patent and Trademark Office.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not

in issue. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

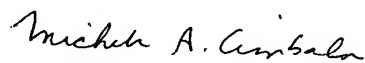
Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered. This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist.

This Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. No statement or fee is required.

Consideration of the cited documents and making the same of record in the prosecution of the above-identified application is respectfully requested. The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

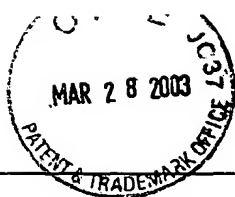
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Michele A. Cimballa
Attorney for Applicants
Registration No. 33,851

Date: 3/28/03

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FORM PTO-1449

SECOND SUPPLEMENTAL
INFORMATION DISCLOSURE STATEMENTATTY. DOCKET NO.
1708.0280002/MAC/MBTAPPLICATION NO.
10/005,647APPLICANT
Jalkanen, et al.FILING DATE
December 7, 2001GROUP
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U.S. PATENT DOCUMENTS

| EXAMINER INITIAL | | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB- CLASS | FILING DATE |
|---------------------|----|--------------------|------|------|-------|---------------|-------------|
| | AA | | | | | | |
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FOREIGN PATENT DOCUMENTS

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| | AL | | | | | | Yes No |
| | AM | | | | | | Yes No |
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| | AO | | | | | | Yes No |
| | AP | | | | | | Yes No |

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

| | | |
|----|---|---|
| AR | 2 | Hagner-McWhirter, Å. et al., "Biosynthesis of heparin/heparin sulfate: kinetic studies of the glucuronyl C5-epimerase with N-sulfated derivatives of the Escherichia coli K5 capsular polysaccharide as substrates," Glycobiology 10:159-171, Oxford University Press (February 2000) |
| AS | 2 | Hagner-McWhirter, Å. et al., "Biosynthesis of heparin/heparan sulphate: mechanism of epimerization of glucuronyl C-5," Biochem J. 347:69-75, London Portland Press On Behalf Of The Biochemical Society (April 2000) |
| AT | 2 | Nagase, T. et al., "Prediction of the Coding Sequences of Unidentified Human Genes. XII. The Complete Sequences of 100 New cDNA Clones from Brain Which Code for Large Proteins in vitro," DNA Res. 5:355-364, Tokyo Kazusa DNA Research Institute and Universal Academy Press (1998) |

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



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OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

| | | |
|----|----------|--|
| AR | <u>3</u> | D-glucuronyl C5-epimerase (EC 5.1.3.-) amino acid sequence (mouse), Accession No. Q9EPS3, Database EBI [Online] (March 2001) |
| AS | <u>3</u> | D-glucuronyl C5-epimerase (EC 5.1.3.-) amino acid sequence (bovine), Accession No. 018756, Database EBI [Online] (January 1998) |
| AT | <u>3</u> | Database Biosis Biosciences Information Service, Database accession no. PREV200000122890, abstract for Hagner-McWhirter, A. et al., "Biosynthesis of heparin/heparan sulphate: Kinetic studies of the glucuronyl C5-epimerase with N-sulfated derivatives of the Escherichia coli K5 capsular polysaccharide as substrates," (February 2000) |

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|--|----|---|--|
| | AR | 4 | D-glucuronyl C5-epimerase amino acid sequence (EC 5.1.3.-), Accession No. O94923, Database EBI [Online] (May 1999) |
| | AS | 4 | Dialog File 351, Accession No. 2001-381292/200140, Derwent WPI English language abstract for WO 01/38507 (May 31, 2001). |
| | AT | 4 | International Search Report for International Application No. PCT/FI01/01068 mailed on December 9, 2002. |

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